

### **REMARKS**

This Amendment is made in response to the office action dated 26 August 2009 and is accompanied by a petition for extension of time to extend the due date to 26 December 2009. Reconsideration with an eye toward allowance is respectfully requested.

### **Amendments**

Amendments to the specification are made to the paragraph at page 7, lines 19-30 of the application as filed (corresponding to paragraph [0046] of the corresponding published application to correct a typographical error.

Amendments have been made to claims 7, 31, 33, 37-40, and 45. Claim 47 has been cancelled without prejudice, and claims 48-53 have been added.

No new matter has been added by these amendments.

### **Objections to the claims**

The examiner has objected to claims 39 and 47 on the basis of certain informalities. Applicant has amended the claims to correct such formalities and trusts that the objection will be withdrawn.

### **Rejections under 35 U.S.C. § 112, first paragraph**

Claims 33, 41 and 44 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

With reference to claim 33, it appears that the rejection is based on the term "altered" rather than the term "alerted" and other similar uses of "alert" used in the description as filed. Applicant submits that an inadvertent typographical or spelling error was introduced in the application at page 7, line 22 where the term "altered" is a typographical error for the intended term "alerted". Applicant submits that support for this correction is found at least at page 7 lines 8 ("an alert to the DRT"), 14 ("of that thread being alerted"), 17 ("where the DRT is alerted"), and 20 ("has been alerted"). Claim 33 has been amended to replace altered with the term alerted, and trusts that with the amendment to the specification and to the claim, the rejection will be withdrawn.

With respect to the examiner's objection relative to the language in claim 41, Applicant submits that support for "a multicast socket" is to be found in the third (3.) paragraph of the Annexure copied below:

3. This third excerpt is part of the DRT Sending. This code fragment shows the DRT in a separate thread, after being notified, sending the value across the network.

```
// START
MulticastSocket ms = DRT.getMulticastSocket(); // The multicast socket
used by the DRT for communication.
byte nameTag = 33; // This is the "name tag" on the network for this
field.
Field field = modifiedClass.getDeclaredField("myField1"); // Stores
the field from the modified class.

// In this example, the field is a byte field. while (DRT.isRunning()){
synchronized (ALERT_LOCK){
    ALERT_LOCK.wait(); // The DRT thread is waiting for the alert
method
to be called.
    byte[] b = new byte[]{nameTag, field.getBytes(null)}; // Stores
the
nameTag and the value of the
// field from the modified class in a buffer.
    DatagramPacket dp = new DatagramPacket(b, 0, b.length);
    ms.send(dp); // Send the buffer out across the network.
}
}
// END
```

With reference to claim 44, and the examiner's objection relative to the language in claim 44, Applicant submits that support for "the network packet" is to be found in the fourth paragraph (4.) of the Annexure which is copied below.

4. The fourth excerpt is part of the DRT receiving. This is a fragment of code to receive a DRT sent alert over the network.

```
// START
MulticastSocket ms = DRT.getMulticastSocket(); // The multicast socket
used by the DRT for communication.
DatagramPacket dp = new DatagramPacket(new byte[2], 0, 2);
byte nameTag = 33; // This is the "name tag" on the network for this
field.
Field field = modifiedClass.getDeclaredField("myField1"); // Stores the
field from the modified class.

// In this example, the field is a byte field. while (DRT.isRunning){
ms.receive(dp); // Receive the previously sent buffer from the network.
byte[] b = dp.getData();
if (b[0] == nameTag){ // Check the nametags match.
    field.setByte(null, b[1]); // Write the value from the network
packet into the field location in memory.
}
}
// END
```

Accordingly, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §112, first paragraph.

#### **Rejections under 35 U.S.C. § 112, second paragraph**

Claims 33, 37 and 38 were rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended the claims and trusts that the rejection under 35 U.S.C. §112, second paragraph, will be withdrawn

#### **Rejections under 35 U.S.C. §102**

Claims 7, 8, and 24 are rejected under 35 USC 102(a), as being anticipated by "JavaSplit: A Runtime for Execution of Monolithic Java Programs on Heterogeneous Collections of Commodity Workstations: by Factor et al. ("Factor").

Claim 7 is an independent claim, and Claims 8 and 24 are dependent from claim 7.

It is fundamental that for a reference to anticipate a claim under 35 USC 102(a) the reference must disclose each and every element of the claim. Without admitting the propriety of the rejection, Claim 7 has been amended to correct certain formalities and to add the limitation that "restricting read requests of each and every said computer such that all read requests of each and every said computer are satisfied by reading only the corresponding independent local memory of the requesting computer and not reading from the memory of any other computer". Applicant submits that support for this amendment is found at least at page 8, lines 8-11 of the application as filed. Analogous amendments were made to independent claims 31 and 45 and have at least the same basis for support in the application as filed.

As will be explained hereafter, "Factor" does not disclose or suggest the restricted memory reading arrangements implicit in the term "independent local memory" and now more explicitly defined in claim 7.

Accordingly, Applicants respectfully request withdrawal of the rejection of Claims 7, 8, and 24 under 35 U.S.C. §102(a).

### **Rejections under 35 U.S.C. §103**

Claim 9 is rejected under 35 USC 103(a) as allegedly being unpatentable over Factor in view of U.S. Patent No. 5,802,585 to Scales et al. ("Scales").

Claims 15-18, 26, 31-32, 34-37 and 39-44 are rejected under 35 USC 103(a) as allegedly being unpatentable over Factor in view of Scales, and further in view of U.S. Patent No. 6,574,674 to May et al. ("May").

Claim 33 is rejected under 35 USC 103(a) as allegedly being unpatentable over Factor, Scales, and May, and further in view of U.S. Patent No. 6,101,527 to Lejeune et al ("Lejeune").

Claims 25 and 29-30 are rejected under 35 USC 103(a) as allegedly being unpatentable over Factor in view of U.S. Patent No. 6,862,608 to Buhlman et al. ("Buhlman").

Claims 25 and 29-30 are rejected under 35 USC 103(a) as allegedly being unpatentable over Factor in view of U.S. Patent No. 6,862,608 to Buhlman et al. ("Buhlman").

Claim 38 is rejected under 35 USC 103(a) as allegedly being unpatentable over Factor, Scales, and May, and further in view of U.S. Patent Application Publication No. 2003/0028364 by Chan et al. ("Chan").

Claims 45-47 are rejected under 35 USC 103(a) as allegedly being unpatentable over May in view of Factor.

Applicant respectfully disagrees with the rejection. Each of claims 31 and 45 are independent claims, and the rejection of each of claims 31 and 45 rely on the examiner's interpretation and application of Factor in view of one or more other references.

Applicant submits that Factor is an academic paper that at most describes a particular distributed shared memory (DSM) arrangement. Applicant submits that in such distributed shared memory arrangement, the various computers are each able to access, or read from, the memory of all the other computers. Thus the total memory amount available to each computer is the sum of the memory amounts of the plurality of individual computers.

In support of this reasoning, Applicant refers to Factor at Part 1 page 2 (left-hand column) which states "In order to provide an illusion of a global address space, JavaSplit incorporates a fine-grain distributed shared memory (DSM)."

Furthermore, in Factor at Part 2 page 2 (right-hand column) the reference states that "Each newly created application thread is placed for execution on one of the worker nodes"; and in the second following paragraph the reference states that "Shared objects can be accessed by several threads, whereas local objects cannot. A newly created object is always local. A local object becomes shared if the system detects that more than one thread accesses it."

Finally, at Part 3 of Factor in the section entitled "Distributed shared memory" at line 1, Factor states that "JavaSplit incorporates an object-based distributed shared memory (DSM)".

Therefore there can be no ambiguity that Factor only describes distributed shared memory (DSM) systems in which the total memory amount available to each computer in the

DSM is the sum of the memory amounts of the plurality of individual computers in the arrangement.

Applicant respectfully submits that the claims of the present application as amended distinguish over Factor and the other cited art, and that Factor either alone, or in combination with other cited art, does not disclose, suggest, or motivate any need for the elements recited in applicants now pending claims.

With reference to independent claim 31, that claim requires:

“... with different portions of said application program being simultaneously executable on different ones of said plurality of single computers with each one of the plurality of single computers having the independent local memory accessible only by the corresponding portion of the application program; said method comprising the steps of:

... restricting read requests of each and every said computer such that all read requests of each and every said computer are satisfied by reading only a corresponding independent local memory of the requesting computer and not reading from the memory of any other computer.”

With reference to independent claim 45, that claim requires (with particular reference to the memory features and avoiding repeating the entire claim):

“... all written to execute on and reference a single computer having a single processing unit or symmetric multiple processing units and a single local memory with a local memory capacity that is not shared with any other single computer of said plurality of single computers, ...

... said different independent local memory within each said different single computer not forming a distributed shared memory arrangement and being accessible during execution of said application program and said different portions of said application program only by the different portion of the application program actually executing within the different local processing unit or symmetric multiple processing units of the different computer ...

restricting read requests of each and every said computer such that all read requests of each and every said computer are satisfied by reading only the corresponding independent local memory of the requesting computer and not reading from the memory of any other computer; ...”

Applicant submits that each of these independent claims 31 and 45 (as well as Claim 7) recites features that are inconsistent with and distinguish over distributed shared memory (DSM) arrangements or configurations of computers, and that a rejection based on Factor cannot properly stand.

Without the suggested teachings of Factor, Applicant submits that there are no valid combinations of cited art that obviate the now pending claims.

Applicant further submits that each of the dependent claims is patentable for at least the same reasons as the underlying independent claims and further because each adds further distinguishing limitations.

Accordingly, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §103(a).

### **Allowable Subject Matter**

Applicant acknowledges the examiner's statement that claims 7, 31, and 45 if amended in the manner indicated in the appendix to the pending office action would present patentable subject matter and be in condition for allowance.

Applicant agrees that claims amended as indicated would represent patentable subject matter and recite features in combination that are not taught or suggested by the cited art. Applicant has added new dependent claims 48-53 that are dependent from one of independent claims 7, 31, or 45 and are based on the elements and limitations that the examiner identified that in combination are patentable over the cited art.

These new dependent claims are dependent from amended independent claims 7, 31, or 45 which are patentable over the cited art on separate bases. Applicant trusts that each of the newly added claims are patentable on at least the same basis as the underlying

independent claim, and further because each adds a further distinguishing limitation not taught or suggested by the prior art.

### **Conclusion**

In view of the foregoing, the applicant submits that all the claims pending in the application comply with the requirements of 35 U.S.C. §112 and patentably define over the prior art. A Notice of Allowance is therefore respectfully requested.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4367.

Applicant believes no fee is due with this response other than those which have already been paid. However, if a fee is due, including any fees due as a result of any required Petition for Extension of Time to maintain the application in pending status or for added claims, or otherwise, please charge our Deposit Account No. 50-2207, under Order No. 61130-8110.US01 from which the undersigned is authorized to draw.

Respectfully submitted,  
Perkins Coie LLP

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By R. Michael Ananian

R. Michael Ananian  
Attorney for Applicant

Registration No.: 35,050  
PERKINS COIE LLP  
P.O. Box 1208  
Seattle, Washington 98111-1208  
(650) 838-4300  
(650) 838-4350 (Fax)

Correspondence Address:  
Customer No. 22918